



Illinois Department of Natural Resources

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Pat Quinn, Governor
Marc Miller, Director

August 18, 2011

Mr. John Hall
Champaign County Dept. of Planning and Zoning
Brookens Administrative Center
1776 E. Washington Street
Urbana, IL 61802

**RE: Invenergy Wind LLC California Ridge Energy Center
Endangered Species Consultation Program
Natural Heritage Database Review #1002516**

Dear Mr. Hall:

This letter provides supplementary updated recommendations pertaining to the proposed Invenergy California Ridge wind energy project in Champaign County, to fulfill the purposes of consultation mandated by the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

The Department first provided opinions and recommendations to the County in a letter dated December 4, 2009. That letter included a discussion on the federally-listed endangered **Indiana Bat**, *Myotis sodalis*, which stated, in part, “[t]he Department is unable to evaluate the potential for an incidental take of an Indiana Bat at this facility based on existing data...” The only recommendation the Department offered at that time was that the developer should conduct acoustic bat monitoring studies in the project area to determine the extent that bat species are present.

Since the Department’s initial recommendations for this project, a number of events have transpired bearing on the federally-listed and State-listed **Indiana Bat**, *Myotis sodalis*, and potential adverse effects of this project on that species.

- On September 11, 2009, a migrating Indiana Bat which had sustained multiple blunt-force injuries was recovered from beneath a turbine of the BP Fowler Ridge Wind Farm in nearby Benton County, IN. The apparent cause of death was wind turbine collision. This incident was repeated on September 18, 2010, when a second Indiana Bat was recovered beneath a wind turbine. These events firmly establish the vulnerability of the Indiana Bat to wind turbines and appear to suggest the existence of a definite migratory flyway through that particular wind farm. The Fowler Ridge Wind Farm, which had been

earlier cleared by both the Fish & Wildlife Service and Indiana DNR as unlikely to adversely affect the Indiana Bat, is situated in terrain very similar to that of the proposed Invenenergy project.

- In April 2010, Missouri reported the detection of White-Nose Syndrome on a Little Brown Bat collected from Pike County, Missouri. In 2011, WNS has been confirmed in several hibernaculae in southern Indiana and Western Kentucky. From these reports it is inferred that White-Nose Syndrome (WNS) will soon affect bat populations in Illinois. WNS has proven fatal to 90% or more of infected bats and is expected to severely contract Illinois' populations of "cave-dwelling" bats, including the Indiana Bat. This will render any additional mortality due to wind farms of much greater significance than before the advent of WNS. (WNS is not caused or propagated by wind turbines, but cumulative mortality from all sources, natural or human, must be considered when evaluating the potential effects of wind farms to the species.)
- In July 2010, a maternity colony containing substantial numbers of the Indiana Bat was documented along the upper Middle Fork spanning the Ford/Champaign/Vermilion County borders, identifying a contemporary locus of Indiana Bat activity in the vicinity of the California Ridge Project, replacing records nearly twenty years old. It is likely additional colonies exist along the Middle Fork and its tributaries.
- Two other breeding-season mist-netting studies elsewhere in Illinois in 2010 captured juvenile and mature Indiana Bats in largely-agricultural areas, reducing our confidence that setbacks from forest habitats reduce the risk of interactions between Indiana Bats and wind turbines. In a bat mortality study performed by Invenenergy at its Grand Ridge facility in LaSalle County, *all* bats killed, regardless of species, died at turbines more than one mile from woods or water.
- In April 2011, a bat tracking study, funded by Invenenergy, was performed on gravid female Indiana Bats emerging from the Blackball Mine near LaSalle, IL. It had been surmised that bats in summer colonies on the Middle Fork might hibernate there. However, all of the tagged bats traveled west and southwest along the Illinois River. This suggests that Indiana Bats on the upper Middle Fork in Champaign and Ford Counties hibernate in Kentucky or southern Indiana, a general direction which might place them at risk of collision with turbines in the California Ridge project, although it is believed most Indiana Bats will tend to follow the Middle Fork Vermilion River during migratory movements.
- Petitions have been filed with the U.S. Fish & Wildlife Service to review the eligibility of the **Northern Long-Eared Bat**, *Myotis septentrionalis*, for listing as an endangered or threatened species due to its vulnerability to WNS. If this species is listed by the Service, it will automatically be placed on the Illinois list of endangered or threatened species. This bat occurs in Champaign County.
- In 2010, Invenenergy undertook acoustic monitoring for bat calls at the California Ridge project (study results are included in the application to Champaign County). Results

were mixed, although the Department notes that the greatest recorded bat activity was not closest to the Middle Fork, as might have been expected, but near a pond several miles from the River. No recorded calls could clearly be identified as emitted by Indiana Bats, but the results, though inconclusive, further refute the notion that the highest level of bat activity will be nearer forests and woods than over open fields.

The proposed California Ridge Wind Farm will not directly adversely modify Indiana Bat colony habitat along the Middle Fork of the Vermilion River. However, the risk of taking any species of bat rises significantly during the fall migration period, extending from July through the end of October. Measures and precautions commonly suggested to decrease the risk of collision during the breeding season--primarily setbacks from forest vegetation--appear largely ineffective in reducing the risk of bat mortality during the migration period, when the risk of taking an Indiana Bat seems greatest. (Much uncertainty remains about relationships between wind turbines and bats, which continues to be the focus of many on-going research efforts.)

The proximity of this project to a documented summer colony of the Indiana Bat, its proximity to the only site of documented wind turbine mortality to the Indiana Bat (Fowler Ridge), its association with the generalized Vermilion River activity area for the Indiana Bat, and the increasing uncertainties concerning this species' use of open habitats, are all factors which heighten concern that interactions with the Indiana Bat are possible at California Ridge.

However, more information is needed about the number and extent of colonies of Indiana Bats on the Middle Fork, the numbers of Indiana Bats in these colonies, their associations with particular hibernation sites, and the routes they follow in both spring and fall migrations before the risk of interactions at this project can be confidently quantified. In the face of these remaining uncertainties, it is the biological opinion of the Department it is likely the California Ridge Wind Farm will adversely modify habitats of the Indiana Bat. But at this time the Department will not recommend that Invenergy seek an Incidental Take Authorization for this species.

Experiments have shown that seasonal curtailment of turbine operations (upwards adjustment of cut-in wind speeds) during bat migration periods significantly reduces overall bat mortality by at least 50%. Curtailment is a valid avoidance/mitigation strategy, but the Department is unwilling to recommend it where it cannot be shown to be necessary. The County or the developer may, at their discretion, require or implement this practice. However, the Department believes that, at this time, costs associated with curtailment would be better spent on additional research on the behavior of bats in this vicinity.

Populations of the **Big Brown Bat**, the **Little Brown Bat**, the **Northeastern Myotis (Northern Long-eared Bat)**, and the **Tricolor Bat (Eastern Pipistrelle)**, none of which are currently listed as endangered or threatened, are known from the vicinity. These species are similarly vulnerable to White-Nose Syndrome and possess documented vulnerability to wind turbine collisions. These species may be equally or more vulnerable to wind turbines associated with this project than the Indiana Bat, and the possibility is high that one or more of these species will become listed during the life of the project.

Recommendation #1. The Department recommends Invenergy undertake mist-netting and telemetry surveys in the vicinity of the project area to better-document the numbers and relative abundances of bat species occurring in the area, placing an emphasis on the Indiana Bat and its seasonal movements.

Recommendation #2. The Department recommends the County require at least one post-construction fall migration season bat mortality study to document levels of bat mortality resulting from the project's operations.

With the exception of the discussion of the Indiana Bat, the consultation recommendations of the December 4, 2009, letter are hereby affirmed and extended for an additional two years.

Consultation on the part of the Department is once again terminated, unless the County desires additional information or advice related to this proposal. In accordance with 17 Ill. Adm. Code 1075.40(h), Champaign County must notify the Department of its decision regarding this recommendation, whether it will:

- Proceed with the action as originally proposed;
- Require the action to be modified per Department recommendations (please specify which measures if not all will be required); or
- Forgo the action.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Sincerely,

A handwritten signature in black ink that reads "Keith M. Shank". The signature is written in a cursive, flowing style.

Keith M. Shank
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cc: Joe Kath, IDNR Office of Resource Conservation, Natural Heritage Division
Jenny Skufca, Illinois Nature Preserve Commission
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Greg Leuchtmann, Invenenergy LLC